

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



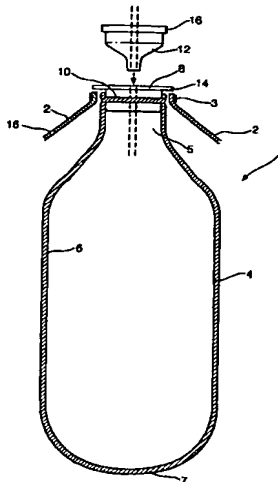
(43) International Publication Date  
19 February 2004 (19.02.2004)

PCT

(10) International Publication Number  
**WO 2004/014568 A1**

- (51) International Patent Classification<sup>7</sup>: **B05B 11/00**
- (21) International Application Number:  
PCT/GB2003/003505
- (22) International Filing Date: 12 August 2003 (12.08.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
0218801.9 13 August 2002 (13.08.2002) GB  
60/403,476 13 August 2002 (13.08.2002) US
- (71) Applicant (for all designated States except US): **SHIELD MEDICARE LIMITED** [GB/GB]; 5 Hurlands Business Park, Hurlands Close, Farnham, Surrey GU9 9JE (GB).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **SALVAGE, John, Richard** [GB/GB]; Canford House, Westfield Lane, Wrecclesham, Farnham, Surrey GU10 4QR (GB).
- (74) Agents: **PEARSON, James, Ginn et al.**; Abel & Imray, 20 Red Lion Street, London WC1R 4PQ (GB).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**  
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **SPRAY DISPENSER ASSEMBLY AND VESSEL THEREFOR**



(57) **Abstract:** A spray dispenser assembly (1) for the dispensing of liquids suitable for use in clean-room environments comprising (a) a collapsible liquid impermeable vessel (4) having an open end comprising a neck portion (5) provided with a collar (8) that is more rigid than the vessel (4); the collar (8) being adapted to sealingly engage with seal means (12) provided between the extraction means of the spray dispenser assembly (1) and the vessel (4); (b) extraction means for extracting liquid from the vessel (4) and dispensing the liquid as a spray; and (c) seal means (12) arranged in sealing position to substantially seal the vessel to the extraction means and substantially inhibit the ingress of air into the vessel (4); the seal means (12) and extraction means being arranged such that the extraction means is operable to dispense liquid from the vessel (4) whilst the seal means (12) is in a sealing position. Collapsible vessels for use in such spray assemblies and kits comprising the collapsible vessels are also disclosed.